MADERA COUNTY

NETWORK ENGINEER I
NETWORK ENGINEER II

DEFINITION

Under general supervision (level I), or direction (level II), to administer information systems, servers and/or local area networks; analyze, diagnose and perform repair duties on a variety of computer related problems; serve as a direct user liaison; and perform related work as assigned.

SUPERVISION EXERCISED

Network Engineer I

Exercises no supervision.

Network Engineer II

May exercise technical and functional supervision over lower level staff.

DISTINGUISING CHARACTERISTICS

Network Engineer I – This level is the entry level in the Network Engineer class series. Positions at this level usually perform most of the duties required of the positions at the Network Engineer II level, but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

Network Engineer II - This is the full journey level in the Network Engineer class series. Positions at this level are distinguished from the Network Engineer I level by the performance of the full range of duties as assigned, working independently and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise, and perform a number of duties of increasing complexity. Positions in this class series are flexibly staffed and positions at the Network Engineer II level are normally filled by advancement from the Network Engineer I level. When filled from the outside, the employee is required to have prior related experience, which allows the employee to meet the qualification standards for the Network Engineer II level.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

Install, configure, and support various communications hardware/software components; monitor data networks for performance; troubleshoot networking problems; maintain performance measuring/reporting systems; maintain recovery and backup procedures for software systems; identify, analyze, and resolve local/wide area network software and hardware problems; assist in database administration; communicate with vendors to gather information regarding hardware/software capabilities; provide technical support to end users; plan, evaluate, monitor, and maintain computer operating system software; plan new network additions, extensions or conversions; plan for and install cable for network devices; troubleshoot and replace defective terminals; develop or modify technical operating procedures; perform regular maintenance on network and other operating systems; develop reports and maintain records related to network operations and equipment.

OTHER JOB RELATED DUTIES

Performs related duties and responsibilities as assigned.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Network Engineer I

Knowledge of:

Network communication systems, protocols, and applications.
Server administration in a secure environment.
Data security and disaster recovery systems and procedures.
Principles of WAN/LAN design and operation.
Principles, methods, and procedures of operating computers and peripheral equipment.
Record keeping and report preparation techniques.
Principles of systems and procedures analysis and documentation.
Principles of information entry, storage, and retrieval.
Principles and techniques of training.
Procedures and techniques used in the diagnosis and repair of computer equipment and
        related components.

Skill to:

Operate a motor vehicle safely and efficiently.
Operate modern office equipment, including computer equipment.

Ability to:

Configure routers, switches, servers and personal computers as well as other network equipment.

Assemble, install, configure, repair and maintain computer hardware, peripherals and components.

Learn to compile, organize and analyze complex data.

Effectively communicate technical concepts to non-technical users.

Manage and coordinate equipment and software purchases.

Learn to prepare network diagrams and related documentation.

Learn to plan network hardware installations and provide complete, accurate and comprehensive documentation.

Read and comprehend technical information.

Analyze network problems and recommend appropriate solutions.

Understand and carry out oral and written directions.

Communicate clearly and concisely, both orally and in writing.

Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.

Experience and Training Guidelines:

Any combination equivalent to experience and training that would provide the required knowledge, skills, and abilities would be qualifying. A typical way to obtain the knowledge, skills, and abilities would be:

Experience:

One year of responsible experience in the management and support of a local or wide area network.

Training:

Equivalent to two years of college level course work in Computer Science, Information Systems or a closely related field, including course work in network administration.

License or Certificate:

Possession of, or ability to obtain, a valid California driver's license.

Possession of one or more of the following: Computing Technology Industry Association (A+), Microsoft Certified Professional (MCP), CISCO Certified Network Associate (CCNA) certification or equivalent certifications as determined by the Director of Information Technology.

Special Requirements:
Essential duties require the following physical skills and work environment:

Ability to sit, stand, reach, balance, walk, kneel, crouch, stoop, squat, crawl, twist, climb, lift 25 lbs.; exposure to cold, heat, noise, mechanical and electrical hazards; work in a confined space; travel to different sites and locations; availability for shift work.

Network Engineer II

In addition to the qualifications for a Network Engineer I:
Knowledge of:

Advanced troubleshooting techniques.
Project budgeting.
Programming languages applicable to operating systems used in the County.

Ability to:

Compile, organize and analyze complex data.
Plan network hardware installations, providing accurate and comprehensive documentation.
Analyze and present technical solutions and generate network diagrams and related
    documentation.
Assume responsibility for technical projects.
Plan and coordinate the work of assigned staff.

Experience and Training Guidelines:
Any combination equivalent to experience and training that would provide the required knowledge, skills, and abilities would be qualifying. A typical way to obtain the knowledge, skills, and abilities would be:

Experience:

Two years of increasingly responsible experience in the management, development and maintenance of a local or wide area network equivalent to that of a Network Engineer I with Madera County.

Training:

Equivalent to two years of college level course work in Computer Science, Information Systems or a closely related field, including course work in network administration.

<u>License or Certificate</u>:

Possession of, or ability to obtain, a valid California drivers license.

Possession of one or more of the following: Computing Technology Industry Association (A+), Microsoft Certified Professional (MCP), CISCO Certified Network Associate (CCNA) certification or equivalent certifications as determined by the Director of Information Technology.

<u>Special Requirements</u>:
Essential duties require the following physical skills and work environment:

Ability to sit, stand, reach, balance, walk, kneel, crouch, stoop, squat, crawl, twist, climb, lift 25 lbs.; exposure to cold, heat, noise, mechanical and electrical hazards; work in a confined space; travel to different sites and locations; availability for shift work.

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